ATIS NEWS

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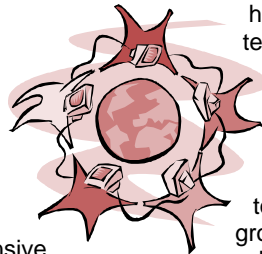# ADOT Launches Business Area Analysis

Background

The first electronic Geographic Information System (GIS) at the Arizona Department of Transportation began in 1975 with the development of the motor vehicle crash database. The Accident Location Identification Surveillance System (ALISS) project was an extensive effort that involved the creation of a vector base map followed by the geocoding (or plotting onto the map) of crash locations along the roadways.

In the early 1990s, the base map system was migrated to a contemporary GIS "coverage" environment supported on software created by Environmental Systems Research Institute (ESRI-Redlands California). This migration made it possible for other areas in ADOT to begin taking advantage of GIS technology. Largely a "grass roots" effort, data gathering and analysis began to be more efficient and effective through the use of GIS. By the mid-1990s, the Highway Performance Monitoring System (HPMS), the Priority Programming System (PPS), and the National Bridge Inventory (NBI) were taking advantage of GIS technology, becoming "spatial" like ALISS.

Current GIS efforts within ADOT are built on the GIS basemap coverage known as the Arizona Transportation Information System or ATIS. ATIS, which evolved from the original ALISS database, is the de-facto standard for all GIS applications in ADOT.

At a Crossroad

The historical "grass roots" status of GIS in ADOT has kept the technology to an almost stagnant level of growth. However, as more groups such as planning, natural resources, environmental planning and traffic operations have taken advantage of the technology, the more apparent it becomes that GIS can no longer maintain it's "grass roots" status. We are at a virtual crossroad: do we continue on the same route, keeping GIS to almost stagnant levels of growth; or, do we turn onto the new road and begin cultivating the efforts, extending ATIS to new technologies such as Intelligent Transportation Systems (ITS) and alternative routing? ADOT has chosen the second option: turning onto a new road. In order to smoothen the ride and keep us on track, a Business Area Analysis (BAA) is now underway.

The BAA, when completed, will provide a strategic planning document and written plan of how to implement and maintain a department-wide GIS program. This study will explore ADOT's business needs as currently expressed by ongoing GIS applications as well as identify those groups, not currently implementing GIS technology, who would benefit from the integration of GIS with their current work processes.

Initial planning and orientation meetings were held in mid-November 2000. A final document on this study is scheduled to be released in mid-January. To learn more about this effort or to provide feedback for the study, visit http://map.azfms.com/gis-baa

Editor's Note: GIS Works Consulting and ESRI are jointly developing the BAA. If you are contacted by either of this groups for input, we strongly encourage you to offer as much information as possible. The outcome will benefit all of ADOT. Thank you! Á

Upcoming Events

- GIS 2001, the 15th Annual GIS Conference
  February 19-22, 2001
  British Columbia, Canada

- GITA Conference
  March 4-7, 2001
  San Diego, California

- GIS-T 2001
  April 8-11, 2001
  Arlington, Virginia

- ESRI International User Conference
  July 9-13, 2001
  San Diego, California

- URISA Annual Conference
  October 20-24, 2001
  Long Beach, California

GIS Toolkit 2000

Test drive a number of new products with the Free 2000 GIS ToolKit CDROM - http://www.geocomm.com/gistoolkit/

The GeoCommunity, an online GIS resource community, has collaborated with some of the leading software developers in the GIS industry to provide the latest freeware and product demos, conveniently bundled on a CD-ROM and shipped directly to you. The Toolkit is now available for a limited time and will be sent free of charge to those requesting a copy. All that is required is to fill out a short request form and you'll receive the Free GIS Toolkit in the mail.

The disk is free with thanks to sponsors. By providing your information you will enable The GeoCommunity to continue to bring you all the free resources that they make available.

Included on the disk are products from: Intergraph, ESRI, LizardTech, Avenza Systems Inc, Northwood Technologies Inc., SWEGIS, alta4, Golden Software Inc. Request your free copy at http://www.geocomm.com/gistoolkit/ .

GIS User Group News

October 2000 Meeting Notes

At the October 11, 2000 meeting we covered several topics. The first of which centered on GIS Day 2000 activities. ADOT will be having an open house and small sessions covering the use of GIS within the department. Check out more information at the official GIS Day website at www.gisday.com.

Next, Jami Garrison, from ADOT, gave a brief overview of geocoding alternatives using ArcView. Specifically, she covered the ATIS geocoder route/milepost method and the latitude/longitude coordinate method. More information on this can be found in the tutorial section of our website at http://map.azfms.com/ usergroup/tutorials.html.

We also discussed training opportunities. ADOT offers ArcView training to state and local government agencies (see the Training News on page 5). ESRI also has a virtual campus where they offer courses online. Those who have a taken the online courses said that they had a good experience with them and would recommend them. You can check out ESRI's online courses at www.esri.com

The brightest spot of the meeting were the cool maps that were printed out from the Library of Congress website. Historic maps dating as far back as the 1500's can be found online. Definitely worth a visit!! (http://memory.loc.gov/ammem/ gmdhtml/gmdhome.html)

At our next meeting, scheduled for January 2001, Paul Barbeau of the Department of Health Services is scheduled to give a presentation on their geocoding process. If you'd like to give a brief demonstration of your GIS –related activities at our next meeting, please let us know! We are always looking for new people to show how they are using GIS in their daily work. Contact Jami Garrison at (602) 712-8958 or via email at Jgarrison@dot.state.az.us.

Hope to see YOU at our next meeting:
Wednesday, January 10, 2001
1:30 pm - 3:30 pm
ADOT Traffic Operations Center
2302 W Durango, Phoenix

UPCOMING CONFERENCES AND EVENTS

GIS 2001

Branching Out: Spatial Technology Goes Mainstream
GIS 2001, the 15th Annual GIS Conference, will return to beautiful Vancouver for a milestone event. The conference will be held February 19-22, 2001. Visit the conference website at www.GIS2001.com for more details.

GITA's 24th Annual Conference and Exhibition

2001: A Geospatial Odyssey
The Geospatial Information & Technology Association (GITA) will hold its 24th Annual conference at the San Diego Convention Center, March 4-7, 2001 in San Diego, California. Additional details and registration info: www.gita.org

GIS-T 2001

The Next Generation
The purpose of the GIS-T conference is to provide a forum for transportation officials from State, Province, Federal, and Municipal Agencies to discuss GIS and transportation issues. This year's event will be held April 8-11, 2001 at the Crystal Gateway Marriott in Arlington, Virginia. Visit the website for more information: http://www.gis-t.org/gist2001.htm

Annual ESRI International User Conference

The 21st Annual ESRI User conference will once again be held in beautiful San Diego, California. This year's conference will be July 9-13, 2001. The week is full of workshops, seminars, user demonstrations, map gallery and more! A definite MUST! Vist the ESRI website for more details: http://www.esri.com.

URISA Annual Conference and Exposition

The Urban and Regional Information Systems Association (URISA) organization will have it's annual conference October 20-24, 2001 at the Convention Center in Long Beach, California. See http://www.urisa.org/annual.htm for information.

"Caching" In

Okay, you've entered the "ultimate world of geekdom" and have your very own GPS unit. Perhaps you use it to find your way around town or as a great navigation aid while out camping — but have you ever gone on a geocaching hunt?

Geocaching is a new treasure hunting game. Armed with a Global Positioning System (GPS) device and coordinates, you can locate treasures that others have stashed in unusual places. The concept of the game is simple: someone hides a stash of "goodies" (usually a weather-proof container of some sort filled with inexpensive trinkets) in some odd yet interesting (to him or her) place and records the coordinates from their GPS device. These coordinates and a few clues are then posted on the geocaching website. Then, geocaching stash seekers, armed with their own GPS units, seek out the hidden treasure.

Once found, the seeker records remarks in the log book found inside the stash box, takes one of the trinkets from inside the box, and replaces it with something he or she has brought along. It's kind of a virtual "hide and seek" game.

But wait, there's more! As might be expected, all this information is stored on the geocaching website at www.geocaching.com. Here you can find coordinates for geocaches by state or by country for those outside the U.S. As of the writing of this story, there are just five geocaches located in Arizona.

The geocaching website gives information on how to find your first geocache as well as how to create and hide a geocache of your own. You can even create an account on the website in order to log the stashes you have found and those you have hidden.

How it all started: On May 1, 2000, President Clinton signed a bill that effectively turned of the selective availability of US satellite signals. What this meant to the GPS industry is that now, instead of your GPS coordinates being somewhere within the size of a football field, they can get within the size of roughly a tennis court. Upon hearing the news, Dave Ulmer of Oregon hid the first 'geocache' somewhere around Portland. Dave then posted the location on a satellite navigation newsgroup — and the hunt was on! Within four days of his post, two people found the stash. Soon others joined in the fun and the sport of "geocaching" was born.

Geocache stashes have been found in a variety of places including urban cities and rough wilderness terrain. Where you seek or where you find is up to you!

Transportation Data Model Consortium Set to Introduce Preliminary Design

Redlands, California - Nov. 29, 2000 - ESRI, the foremost geographic information software company, is sponsoring a transportation data model consortium that will enable geographic information system (GIS) users to take greater advantage of ArcGIS 8 and the new geodatabases. The consortium, UNETRANS (Unified NEtwork and TRANSportation), is a collaborative project led by ESRI and the University of California, Santa Barbara (UCSB). It is developing a generic data model for the transportation industry using ESRI's ArcGIS software.

Three components of the project include developing a conceptual object model of transportation features, incorporating multiple modes of travel, and accommodating multiple scales of interpretation of the real world. The current focus has been on transportation infrastructure including roadway and railway network features as well as the interaction between them for modeling intermodal transfers.

Another goal is to develop a Unified Modeling Language (UML) code that will easily integrate into an ArcGIS geodatabase. This will enable users to immediately populate the geodatabase rather than having to design it, and the inherent commonality between users will facilitate data sharing. The third component of the consortium is to document the data model in a book on transportation GIS.

Dr. Michael F. Goodchild, professor and chair at the UCSB Department of Geography, heads UNETRANS. "Integration with UML gives ArcGIS 8 the ability to adapt to the special needs of different GIS applications. With the UNETRANS model, GIS users in transportation will have easy access to the core data elements they need for their specific applications. Objects in the UNETRANS model will include the basic components of the transportation network plus representations of the vehicles that move on the network," said Goodchild.

Dr. Val Noronha, director of the Vehicle Intelligence and Transportation Analysis Laboratory (VITAL) at UCSB is assisting in the model development. "This is an exciting opportunity to bring together user groups that have traditionally operated at different scales and in different functional environments," said Noronha. "We're entering a new era in transportation management with technologies such as ITS and GPS. There needs to be a quantum improvement in map data quality. One way to achieve that is to smooth the exchange of data between the design-scale and planning-scale communities, between linear and 2D and 3D users."

Consortium membership is worldwide and includes highway agencies and departments of transportation, transit and railway organizations, city street departments, airport authorities, transportation planning consultants, and ESRI business partners. The first of three consultations was held in San Diego in June. The group's second meeting was November 3-4, 2000 in Turin, Italy, held just prior to the ITS World Congress. The preliminary design of the UNETRANS data model was introduced at this meeting. European members offered useful feedback, and the group is now working on the next drafts, to be presented at the third meeting December 7-8, 2000 in Redlands, California.

"We are quite pleased with both the level of interest and the high quality of the contributors, many of whom are part of the leading transportation GIS teams in the world," says Ernie Ott, ESRI transportation industry manager. "There is a strong commitment from these organizations to gain the maximum benefit from their investments in GIS, and UNETRANS is helping us realize the promise of the new ArcGIS developments.

This article ©2000 by ITS America. The Article appeared on the ITS America website www.itsa.org on 12/1/00.

The New Geography

A book review

Book Description

From one of America's most visionary social thinkers comes a groundbreaking appraisal of how the digital revolution is radically redefining where Americans live and work.

It is well accepted that the digital economy's rise has turned America's established economic and social geography on its head in a manner not seen since the onset of the Industrial Revolution. Many also believe that with the explosion of the Internet and new communications technologies--and our growing freedom to work from anywhere--place no longer matters.

Nothing could be less true, Joel Kotkin argues in _The New Geography_. In fact, place has never been more important. Today, people and businesses can search the entire country to find the places most desirable to them. Freed from old ties to raw materials or pools of cheap labor, the Information Age businesses that drive the economy, and their employees, can be anywhere they want. And so the question looms: Who wants to live where?

The New Geography decodes the massive shifting of resources under way nationwide, examining new forms of social organization that are blooming and old forms that are evolving or dying. Along the way, the book shows how this vast upheaval has been a blessing for some of America's cities, notably those that excel at the preindustrial city's age-old role as a crossroads for creativity, trade, and culture. But not all cities are

created equal, and the book explains which are best equipped to thrive, which are doomed to decline, and why. _The New Geography_ also explores a whole set of other kinds of communities--such as high-tech "nerdistans" and bucolic Valhallas--that are thriving while others are dying.

The product of years of research, _The New Geography_ is an essential road map to the utterly new landscape created by the digital economy.

Amazon.com Editorial Review

by John J. Miller

There's a belief that the rise of technology will make cities obsolete, as more people live where they choose and telecommute to work. The advent of portable cell phones, easy air travel, and hotel time-sharing encourages a sense of "placelessness"--and that bodes ill for urban clusters. But Joel Kotkin thinks this conventional wisdom is unwise: "The importance of geography is not dwindling to nothing in the digital era; in fact, quite the opposite. In reality, place -- geography -- matters now more than ever before," he writes. Cities will no longer be industrial or corporate centers, but rather magnets for intelligence and talent in a way they haven't been for quite some time. The paradigm is an old one:

> "Like the postindustrial metropolis, the preindustrial city, existing before the era dominated by mass production of goods and services, flourished by capitalizing on

functions--such as cross-cultural trades, the arts, and specialized craft-based production--that could not be adequately performed by the far more numerically superior hinterland. "

In this sense, the future city may have more in common with Venice during the Renaissance than Detroit during the Henry Ford era.

Kotkin does not believe all cities will thrive in this environment. He's particularly down on what he calls the "midopolis"--suburbs built mainly in the 1950s and 1960s to service the old-city model. They are now afflicted by crumbling infrastructures, rising crime rates, and declining schools. He cites Long Island and the San Fernando Valley as examples. New forms of city-- Kotkin calls then "nerdistans"--are already rising in their place. They are self-contained suburbs that have few of the problems associated with urban cores, and they attract companies and workers tuned into the technological revolution. He names Austin, Texas, and Raleigh, North Carolina, as prototypes. Kotkin is a veteran business journalist who writes for _The New York Times_ and other publications. He's written several other books, including _Tribes_, but _The New Geography_ is his best yet: a smart combination of the reportage one expects from a top-drawer magazine article and the thoughtfulness one expects from a book. It may come to be remembered as a classic, an information-age groundbreaker with the influence of Jane Jacobs's _The Death and Life of Great American Cities_.   Á

Worthy Websites

Antiquarian Maps at Reed College

http://web.reed.edu/resources/ library/maps

Original, full color historical maps on display here. Some of the maps data as far back as the 14th and 15th centuries. Retrieve maps by date, title, area or mapmaker.

Maps.Com

http://www.maps.com

Online world atlas, topo maps, educational games and a reference guide for business travelers highlight this worthy website.

Newsmaps.Com

http://www.newsmaps.com/

An interesting approach to mapping. This site creates information based "themescapes" organized around news stories and current events.   Thousands of documents and webpages are organized into visual maps based on the content. You really need to take a tour of the site to see how it really works.

Training News

Introduction to ArcView GIS version 3.2

This two-day course provides a conceptual overview and hands-on experience using ArcView GIS software. The course teaches basic ArcView GIS functionality and enables participants to quickly take advantage of the software's powerful display and analysis capabilities. The prerequisite to the course is a working knowledge of the windows operating system environment and a willingness to learn!

ADOT provides this ESRI Authorized training four times a year at little or no cost for ADOT employees. Local government employees are also eligible to attend these classes through the Local Technical Assistance Program (LTAP) at a reduced rate. If you are interested in attending please contact Stefanie Karnitz of LTAP at (602) 712-8461. ADOT employees should contact Shari Ligerman of ITD Technical Training at (602) 712-4939.

Sorry, but we cannot allow any consultants or other private industry employees to enroll in the class. Non-government employees can find a list of Authorized Instructors on ESRI's website at http://www.esri.com.

ArcView GIS 2001 Course Schedule

January 24-25, 2001
April 25-26, 2001
July 25-26, 2001
October 24-25, 2001

all classes taught at ADOT Human Resources Development Center (HRDC) in Phoenix at 1130 N 22nd Ave. We are also anticipating adding a class to be taught in Holbrook, Arizona. Contact Stefanie or Shari (at the numbers above) if you are interested in attending a class in Holbrook.

Advanced ArcView Course

Thank you to LTAP and ADOT ITD Technical Training programs for sponsoring our first Advanced ArcView course! We are in the process of reviewing the possibility of adding another Advanced ArcView course some time in early 2001. Watch our website and this section of the newsletter for details.

Online Tutorials

The TPD website has online tutorials available to everyone with internet access. Current available tutorials are:

- Preparing data for the ATIS Geocoder

- Using the ATIS Geocoder

- Using the ArcView Projector! Extension

- Adding and using an ArcView script to calculate length

- Internet Mapping with the iMapper extension

- Exporting an image in QuadsUSA

You can find these tutorials on our website at:
http://map.azfms.com/usergroup/tutorials.html.

Congratulations to the most recent graduates of ADOT's
Introduction to ArcView GIS course!

Micheala Young	Jeff Ambrele
Eric Hardt	Bharat Kandel
Kathy Carrillo	Tay Dam
Michael Vaughn	Bob Faxon
Jack Conlin	Jason Harris
Doanh Bui	Steve Brown
Julie Wilson	Antonio Schiavon
Brenda Kasun	Mark White
Joe Rumann	Nazar Nabaty
Gary Slusher	Jason Bealieu
David Boggs	Cindy Eiserman
Craig Civalier	Fred Stevens
Mike Kohus	Deanna Cluff
Bill Knight	Tom Prezelski
Michael Duncan	Gil Marvin
CR Barclay	Donna Jones
Paul Langdale	Jose N. Rodriguez
Keenan Murray	Martin Roush
Eric Smith	Jim Hossley
Ray Anderson	Tom Martinez
Anne MacCracken	Jim Schoeffling

If you are interested in attending one of our classes, please contact Stefanie Karnitz of LTAP at (602) 712-8461. ADOT employees should contact Shari Ligerman of ITD Technical Training at (602) 712-4939. *(please see information on the left for details on attendance requirements).*

Office of the Governor

PROCLAMATION

* ARIZONA GEOGRAPHIC INFORMATION SYSTEM (GIS) DAY *

WHEREAS, Geography Awareness Week is November 12 through 18, 2000, and

WHEREAS, National Geographic Information System (GIS) Day is November 15, 2000; and

WHEREAS, an understanding of geographical concepts is crucial to maintain a balance between the wise use of the State's natural resources, continued economic prosperity, and the general health and well being of the State's citizens; and

WHEREAS, the management, use, and exchange of geographic information are essential for effective decision making by local, state, and federal government agencies; and

WHEREAS, the global GIS community has joined to declare November 15, 2000 as GIS Day 2000;

NOW, THEREFORE, I, Jane Dee Hull, Governor of the State of Arizona, do hereby proclaim November 15, 2000 as

* ARIZONA GEOGRAPHIC INFORMATION SYSTEM (GIS) DAY *

IN WITNESS WHEREOF, I have hereunto set my hand and caused to be affixed the Great Seal of the State of Arizona

Jane Dee Hull
GOVERNOR

DONE at the Capitol in Phoenix on this thirtieth day of October in the year Two Thousand and of the Independence of the United States of American the Two Hundred and Twenty-fourth.

ATTEST:

Secretary of State

Arizona Governor Jane Dee Hull officially proclaimed November 15, 2000 to be GIS Day 2000. A similar Proclamation was made last year in Arizona. Many other states also proclaimed GIS Day 2000. To see the full listing, visit www.gisday.com

GIS DAY 2000!

First and second graders at Keystone Montessori School in Phoenix (Ahwatukee) learn about geography and GIS.

Thomas Tagliaferri of Blue Cross gets suited up in a GPS backpack by Mike Dennis and Ed Green of ADOT's Environmental Planning Section.

Rory Renfro, ADOT Intern, ponders over a map in the map gallery.

November 15, 2000 marked the official year 2000 celebration for GIS Day. GIS Day is a world-wide event developed to promote the use of GIS, to build understanding of geography and to create awareness for the importance of geography in our everyday lives.

ADOT celebrated GIS Day 2000 by holding a open house/seminar. There were maps on display, computers set up for hands-on trial of GIS software, demonstrations of GIS applications within ADOT, and a live demonstration of Global Positioning System (GPS) technology.

Jami Garrison, a senior GIS analyst in ADOT's Transportation Planning Division, also visited two elementary schools and showed the students how geography plays an important role in their every day lives.

At Keystone Montessori school in Phoenix (Ahwatukee area), the 1st and 2nd graders not only learned some new things about the world in which they live but they were also eager to share some of their knowledge of geography.

At Sky View Elementary in Peoria, the 4th graders learned new geographic concepts. They were also very excited to see an aerial photo of their school. Many of the students could not

determine from the photo which building they were in. However, by the end of the presentation, most students understood many of the fundamentals of geography.

Sessions like these were presented all over the world during National Geography Awareness Week (November 12—18, 2000). Next year GIS Day will once again be celebrated during National Geography Awareness Week (November 11—17, 2001). GIS Day 2001 will be celebrated on Wednesday, November 14, 2001.

For more information about GIS Day, visit the GIS Day website on the internet at www.gisday.com.   *-jg*

ATIS NEWS

ATIS News is published by the GIS Team of the Arizona Department of Transportation (ADOT), Transportation Planning Division to support and promote the use of GIS in ADOT. Our Staff members:

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If you are not currently on our mailing list and would like to be, contact Jami Garrison at the contact information listed below. Comments, questions or articles may also be submitted.

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WANTED

GIS User Stories

Share your GIS work with the readers of ATIS News! User Stories can be up to one page in length and can cover any GIS technology related subject. Past stories have included topics on demographic modeling, GPS, centerline file creation, and hydrologic modeling. To submit your user story or to get more information contact:

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